

Amendment to the Claims:

This listing of claims will replace all versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-8 (Cancelled)

9. (Original) A method of Halftone Super-cell optimization for artifact reduction, comprising the steps of:

receiving a halftone value;

selecting a group of super-cells, each super-cell having a plurality of sub-cells;

grouping sub-cells such that at least one group of sub-cells contains cells from at least two super-cells;

randomly selecting sub-cells based on a code value for each super-cell; and

biasing each grouping of sub-cells based on its randomly selected code-value;

wherein the total of the selected group of sub-cells for the group of super-cells equals the halftone value.

10. (Currently Amended) The method of claim ~~10~~9 wherein each grouping of sub-cells has a different code-value than all adjacent groupings of super-cells.

11. (Original) The method of claim 9 wherein the randomly selected group of sub-cells are selected based on a predetermined pattern.

12. (Original) The method of claim 11 wherein the overall pattern of growth within a group of sub-cells can differ in each individual sub-cell.

13. (Currently Amended) An image output apparatus, comprising:
means adapted to receive a halftone value;

means adapted to select a group of super-cells, each super-cell having a plurality of sub-cells, wherein each super-cell has a different number of randomly selected sub-cells than all adjacent sub-cells;

means adapted to randomly select a code-value for each super-cell; and

means adapted to bias the sub-cells of each super-cell based on its randomly selected code-value;

wherein the total of the randomly selected for the group of super-cells equals the halftone value.

14. (Cancelled)

15. (Currently Amended) An image output apparatus, comprising:

means adapted to receive a halftone value;

means adapted to select a group of super-cells, each super-cell having a plurality of sub-cells;

means adapted to use a pattern to select sub-cells from each super-cell, wherein the pattern is selected from the group consisting of a square wave, a sine wave, a crossing pattern, a vertical pattern and a horizontal pattern; and

means adapted to bias the selected group of sub-cells;

wherein the total of the selected group of sub-cells for the group of super-cells equals the halftone value.

Claims 16 -17 (Cancelled)

18. (Original) A image output apparatus, comprising:

means adapted to receive a halftone value;

means adapted to select a group of super-cells, each super-cell having a plurality of sub-cells;

means adapted to group sub-cells such that at least one group of sub-cells contains cells from at least two super-cells;

means adapted to randomly select a group of sub-cells from each grouping of sub-cells;
and
means adapted to bias the randomly selected group of sub-cells;
wherein the total of the selected group of sub-cells for the group of super-cells equals the halftone value.

19. (Original) The image output apparatus of claim 18 wherein each grouping of sub-cells has a different number of randomly selected sub-cells than all adjacent groupings of super-cells.

20. (Original) The image output apparatus of claim 18 wherein the randomly selected group of sub-cells are selected based on a predetermined pattern.

21. (Original) The image output apparatus of claim 20 wherein the predetermined pattern for each grouping of sub-cells is selected from the group consisting of a square wave and a sine wave.

22. (Currently Amended) A computer program product having a computer readable medium having computer program logic recorded thereon for halftone super-cell optimization for artifact reduction, comprising:

means adapted to receive a halftone value;
means adapted to select a group of super-cells, each super-cell having a plurality of sub-cells, wherein each super-cell has a different number of randomly selected sub-cells than all adjacent super-cells;
means adapted to randomly select a group of sub-cells from each super-cell; and
means adapted to bias the randomly selected group of sub-cells;
wherein the total of the selected group of sub-cells for the group of super-cells equals the halftone value.

23. (Cancelled)

24. (Currently Amended) A computer program product having a computer readable medium having computer program logic recorded thereon for halftone super-cell optimization for artifact reduction, comprising

means adapted to receive a halftone value;

means adapted to select a group of super-cells, each super-cell having a plurality of sub-cells;

means adapted to use a pattern to select sub-cells from each super-cell, wherein the pattern is selected from the group consisting of a square wave, a sine wave, a crossing pattern, a vertical pattern and a horizontal pattern; and

means adapted to bias the selected group of sub-cells;

wherein the total of the selected group of sub-cells for the group of super-cells equals the halftone value.

Claims 25-26 (Cancelled)

27. (Original) A computer program product having a computer readable medium having computer program logic recorded thereon for halftone super-cell optimization for artifact reduction, comprising:

means adapted to receive a halftone value;

means adapted to select a group of super-cells, each super-cell having a plurality of sub-cells;

means adapted to group sub-cells such that at least one group of sub-cells contains cells from at least two super-cells;

means adapted to randomly select a group of sub-cells from each grouping of sub-cells;

and

means adapted to bias the randomly selected group of sub-cells;

wherein the total of the selected group of sub-cells for the group of super-cells equals the halftone value.

28. (Original) The computer readable medium of instructions of claim 27 wherein each grouping of sub-cells has a different number of randomly selected sub-cells than all adjacent groupings of super-cells.

29. (Original) The computer readable medium of instructions of claim 27 wherein the randomly selected group of sub-cells are selected based on a predetermined pattern.

30. (Original) The computer readable medium of instructions of claim 29 wherein the predetermined pattern for each grouping of sub-cells is selected from the group consisting of a square wave and a sine wave.